

"POWER AFRICA" & PARTNER COUNTRY ENERGY IN THE NEWS February 07, 2015 – March 07, 2015

Article Summaries & Full Clips

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IN THE NEWS: Featured Partner Country Energy News

February 07 – March 07, 2015

POWER AFRICA, AFRICA & REGIONAL NEWS

8.5MW Solar Farm Completed At Rwandan Orphanage Energy Matters

Feb. 12 | Energy Matters
Just one year on from securing
a power purchase agreement
from the Rwandan
government and project
financing from international
aid organisations, solar
developer Gigawatt Global has
completed construction of its
flagship 8.5 MW solar field at
the Agahozo-Shalom Youth
Village.

Experts: Private Investments Could Fast Track African Energy

Feb. 10 | VOA News
Energy experts say there is an urgent need for additional public and private investment to bring more electricity to Africa. They say governments need to work with the private sector to bridge power capacity gaps.

New Handbook to Accelerate Power Investments in Africa

Mar. 2 | Initiative for Global Development (Washington, DC)

The "Understanding Power Purchasing Agreements" handbook was recently published as part of the Power Africa initiative. The handbook captures critical insights from American, African, and European power experts on

best practices in the negotiation of fair and balanced power purchase agreements. The goal was to translate their expertise and technical knowledge into an accessible document.

Obama's Power Africa Initiative Impact Encouraging

Feb. 19 | CAJ News Africa
A Preview of African Utility
Week features an interview
with Power Africa Coordinator
Andrew Herscowitz.

Obama's Power Africa Initiative Joins African Utility Week As Country Partner

Feb. 7 | Ventures Africa frican Utility Week has announced that Power Africa, US President Barack Obama's initiative to improve access to power in sub-Saharan Africa, will be the official country partner of the upcoming conference and expo from 12-14 May at the CTICC in Cape Town. The conference and expo bring together utility professionals from across the globe to learn, share knowledge and debate the key topics that will secure the future development of Africa's power and water industries.

Rwanda in Biggest Solar Park Venture

Feb. 8 | East Africa Business Week East Africa's first utility- scale solar plant was last week inaugurated in Rwanda and will provide clean energy for 15,000 homes. The plant now makes up over five percent of Rwanda's

five percent of Rwanda's current energy generation capacity of 155MW.

Video: Scourge of Power Outages Holding Business Back in Africa

Feb. 10 | VOA News Power outages are a fact of life across much of Africa, with the near-daily blackouts affecting rich and poor countries alike. A small business in Nairobi that began as a party supply outfit has expanded to serve restaurants and supermarkets - moving more than a ton of ice a day, while their custommade ice sculptures decorate State House events. It's an entrepreneurial success story. But Betty Mbithe, office manager of The Ice Man company, said the limits of the country's power supply puts the business in jeopardy.

Powering the Mobile Revolution in Sub-Saharan Africa

Feb. 11 | Emerging Frontiers
The mobile phone revolution is in full swing throughout the world. However there are still inhibitors preventing billions from accessing the mobile economy. Even after the connectivity problem has been addressed in frontier markets, an equally pressing problem remains – how do the world's most impoverished



communities recharge their cellular phones?

Sub-Saharan Africa's electricity demand to quadruple by 2040: McKinsey

Feb. 20 | CNBC Africa McKinsey & Company released the Brighter Africa Report that looks at the electricity demand and possibilities of private sector investment in the energy space.

ETHIOPIA

AORA Solar & Ethiopia

Delegation Meet In Spain On
Solar Energy Collaboration

Feb. 26 | Clean Technia
AORA Solar, a leading
developer of solar-biogas
hybrid power technology,
today announced the visit of a
delegation comprised of
officials from the Ethiopian
Ministry of Water, Irrigation
and Energy, the Ethiopian
Energy Authority as well as
academics from Ethiopian
universities.

How Being Energy Efficient in Ethiopia Is Helping the Environment

March 2 | United Nations World Food Programme (Rome)

WFP Is expanding Its safe stove initiative in Ethiopia by distributing 24,000 additional safe, fuel-efficient stoves in the Ahmara region. The project, which began five years ago thanks to funding from Germany's KfW Development Bank, will also be generating revenues from carbon credits that WFP will reinvest in food insecure communities. We met

a few families to see the benefits of these stoves for their lives and their environment.

Shortage of Infrastructure Power Supply - Industry Bottlenecks

March 2 | Ethiopian Herald
Metals and Engineering
Development Institute (MIDI),
held a consultative meeting
with local and foreign
stakeholders. State Minister of
Industry Tadesse Haile said
that the industry sector
remains an engine of
economic growth as it plays a
role as a basis for financial and
technological development
beyond creating jobs.

GHANA

Ghana to Get Additional 3,665MW of Power in Five Years – President

Feb. 26 | The Government of Ghana

President John Mahama has stated that an additional 3,665 megawatts (MW) of power would be injected into the national grid over the next five years. The President announced this when he presented his third State of the Nation's address in fulfillment of Article 67 of the Constitution.

KENYA

Kenya Power to Invest Sh10
Billion in New Substations

Feb. 24 | Capital FM
Kenya Power will invest
Sh10.45 billion to finance the
construction of 36 new
substations with the aim of

reinforcing the country's electricity network, the company's Managing Director and Chief Executive Officer, Ben Chumo, has said.

Africa's first grid-connected biogas plant commissioned in Kenya

Feb. 9 | African Review
Johnnie McMillan, managing
director of Tropical Power
Kenya Ltd, said that his
company commissioned the
U\$\$6.5mn Gorge Farm Energy
Park anaerobic digester in
Kenya, which would consume
50,000 tonnes of organic
waste sourced from an 800hectare farm owned by VegPro
Group.

Kagame, Kenyatta Open 140mw Geothermal Power Plant in Kenya

Feb. 20 | The New Times
President Paul Kagame and his
Kenyan counterpart Uhuru
Kenyatta, yesterday,
inaugurated a 140-megawatt
Olkaria Geothermal Power
Plant in Naivasha, a town in
Nakuru County, north-west of
Kenya's capital Nairobi.

Kenya Joins Top 10 Geothermal Producers

Feb. 20 | Capital FM
Kenya is now the 7th highest
producer of geothermal power
as it unveiled the biggest
geothermal plant in the world
which added an extra 280MW
to the national grid.

Menengai Ready to Produce 130MW of L Power

Feb. 23 | The Star The Menengai geothermal project is ready to generate



130 megawatts of electricity, according to Silas Simiyu, managing director of Geothermal Development Company. He said once the energy is connected to the national grid it will push power prices down further.

LIBERIA

OPIC CEO to Visit Liberia

Mar. 1 | Liberia News Agency
The Overseas Private
Investment Corporation (OPIC)
President and Chief Executive
Officer Elizabeth Littlefield will
lead a delegation to visit
Liberia shortly. The visit will lay
the groundwork for future
OPIC involvement and help
introduce investors to
potential opportunities in
Liberia.

President Sirleaf Meets Ranking U.S. Congressional Leaders and Members; They Express Strong Commitment to Assist Liberia's Post-Ebola Efforts

Feb. 27 | Liberia Government
President Ellen Johnson has
met with key Congressional
leaders and ranking members
of both Houses of the U.S.
Congress in Washington D.C.
The Liberian leader is currently
visiting the United States of
America to show appreciation
to the U.S. Government and
people for standing with
Liberia during the Ebola crisis.

NIGERIA

Electricity Firms Get
Additional N39.5b
Intervention Fund to Boost
Supply

Feb. 11 | The Guardian
More money (N39.527 billion)
was released to four
distribution companies
(Discos) and six generation
companies (Gencos) who have
met the condition precedent
for the Central Bank of Nigeria
(CBN) intervention fund of
N213 billion to boost efficiency
in the power sector.

Govt Urged to Liberalise Electricity Meter Market

Feb. 11 | The Guardian
In a bid to fully meter and
adequately evaluate the
consumption of all electricity
consumers in the country, the
Federal Government has been
urged to liberate the electricity
meter market and create a
conducive business
environment for the
indigenous meter
manufacturers to thrive.

NERC Prescribes Micro-Grid Power Generation for Industrial Clusters

Feb. 26 | The Guardian
The Nigerian Electricity
Regulatory Commission (NERC)
has urged manufacturers to
embrace micro-grid power
generation model for
industrial clusters, to ensure
cost effective and reliable
electricity for production.
Presidential Taskforce Targets
6,000 Megawatts By June |
March 3 | The Guardian

Schneider Electric, Naptin to Train 400 Electricians

Feb. 10 | This Day
Schneider Electric, the global specialist in energy management, in partnership with the National Power
Training Institute of Nigeria

(NAPTIN) will train over 400 electricians in a programme, which begins next month.

TANZANIA

1 Million Solar Homes Project Announced By President of Tanzania

Feb. 17 | Clean Technia The Tanzanian government has announced an initiative to get solar power to one million homes by the end of 2017. It is expected that achieving this goal will also create about 15,000 solar jobs and create solar power for about 10% of Tanzania's population. About 80% of Tanzania's citizens currently use candles and kerosene for light. Both of these light sources can cause fires, which injure and even kill people each year. They are also quite polluting and bad for people's health.

250,000 New Customers in Tanesco Action Plan

Feb. 23 | Tanzania Daily News THE Tanzania Electric Supply Company (TANESCO) plans to connect 250,000 new customers with electricity this year, promising better and improved services to the public.

AfDB Approves Sh261 Billion for Tanzania-Kenya Power Line

Feb. 20 | Tanzania Daily News
The African Development Bank
(AfDB) has approved a \$145
million (about 261bn/-) loan to
fund the building of an
electricity line between
Tanzania and Kenya to
improve regional power



connections.

EWURA Introduces Model Contracts for Energy Sector

Feb. 18 | Tanzania Daily News
THE Energy and Water Utilities
Regulatory Authority (EWURA)
has drafted a model
agreement to guide all
investments in the energy
sector. Addressing journalists,
the Director General of
EWURA, Mr Felix Ngamlagosi,
said the model agreement
seeks to create standard
contracts for all investors in
the energy sector.

IFC Offers U.S. \$7 Million for Tanzania Off-Grid Electricity

Feb 8 | East Africa Business Week

The International Finance
Corporation (IFC) has
announced a \$7 million (about
Tsh 11.9 billion) financing deal
to help expand the reach of
Off-Grid Electric in Tanzania.
Off Grid Electric is a solar
leasing company, which
provides home solar electric
systems to consumers in rural

and urban Tanzania. It aims to reach 200,000 households in Tanzania by the end of 2015.

Programme to Help Youth On Renewable Energy

Feb 22 | Tanzania Daily News Tanzania Renewable Energy Association (TAREA) in collaboration with Tanzania Commission for Science (COSTEC) have plans to start a programme of incubating youth to embark on renewable energy business, it was announced. The Executive Director of TAREA, Eng. Mathew Matimbwi, said the programme will involve youth with interests with renewable energy businesses.

Rural Electrification Remains Govt Priority

March 4 | Tanzania Daily News

Rural electrification remains among the government's top priorities because it is likely to contribute immensely in transforming living conditions of the people. This was said in Dar es Salaam by the Principal Energy Officer, Mr Paul Kiwele, who represented Deputy Permanent Secretary in the Ministry of Energy and Minerals, at the launch of Rex Solar Energy's 3G Solar Home System.

Solar 'Generators' Power Up Remote Homes, Factories

Feb. 9 | Thompson Reuters Foundation

More than 840 households - and, crucially, small factories - in Tabora, Dodoma and Katavi regions so far have been connected to solar grid systems, in which large numbers of solar panels feed batteries housed in shipping containers, with the power then carried out to the community on distribution lines similar to those used by Tanesco, the state-run power utility.



IN THE NEWS - Full Clips

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- 8. Africa: Powering the Mobile Revolution in Sub-Saharan Africa | Feb. 11 | Emerging Frontiers
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- 12. Ethiopia: Shortage of Infrastructure Power Supply Industry Bottlenecks | March 2 | Ethiopian Herald
- 13. Ghana: Ghana to Get Additional 3,665MW of Power in Five Years President | Feb. 26 | The Government of Ghana
- 14. Kenya Power to Invest Sh10 Billion in New Substations | Feb. 24 | Capital FM
- 15. Kenya: Africa's first grid-connected biogas plant commissioned in Kenya | Feb. 9 | African Review
- 16. Kenya: Kagame, Kenyatta Open 140mw Geothermal Power Plant in Kenya | Feb. 20 | The New Times
- 17. Kenya: Kenya Joins Top 10 Geothermal Producers | Feb. 20 | Capital FM
- 18. Kenya: Menengai Ready to Produce 130MW of L Power | Feb. 23 | The Star
- 19. Liberia: OPIC CEO to Visit Liberia | Mar. 1 | Liberia News Agency
- 20. Liberia: President Sirleaf Meets Ranking U.S. Congressional Leaders and Members; They Express Strong Commitment to Assist Liberia's Post-Ebola Efforts | Feb. 27 | Liberia Government
- 21. Nigeria: Electricity Firms Get Additional N39.5b Intervention Fund to Boost Supply | Feb. 11 | The Guardian
- 22. Nigeria: Govt Urged to Liberalise Electricity Meter Market | Feb. 11 | The Guardian
- 23. Nigeria: NERC Prescribes Micro-Grid Power Generation for Industrial Clusters | Feb. 26 | The Guardian
- 24. Nigeria: Presidential Taskforce Targets 6,000 Megawatts By June | March 3 | The Guardian
- 25. Nigeria: Schneider Electric, Naptin to Train 400 Electricians | Feb. 10 | This Day



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- 27. Tanzania: 250,000 New Customers in Tanesco Action Plan | Feb. 23 | Tanzania Daily NewsFeb 23 | Tanzania Daily News
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- 30. Tanzania: IFC Offers U.S. \$7 Million for Tanzania Off-Grid Electricity | Feb 8 | East Africa Business Week
- 31. Tanzania: Programme to Help Youth On Renewable Energy | Feb 22 | Tanzania Daily News
- 32. Tanzania: Rural Electrification Remains Govt Priority | March 4 | Tanzania Daily News
- 33. Tanzania: Solar 'Generators' Power Up Remote Homes, Factories | Feb. 9 | Thompson Reuters Foundation



Power Africa: 8.5MW Solar Farm Completed At Rwandan Orphanage - Energy Matters | Feb. 12 | Energy Matters

Source URL: http://www.energymatters.com.au/renewable-news/rwanda-solar-farm-em4681/

February 12, 2015 Energy Matters

Just <u>one year on</u> from securing a power purchase agreement from the Rwandan government and project financing from international aid organisations, solar developer Gigawatt Global has completed construction of its flagship 8.5 MW solar field at the Agahozo-Shalom Youth Village.

The plant will boost Rwanda's energy production by six per cent and is the first utility-scale solar facility to come online under the U.S.-Africa Clean Energy Finance (ACEF) initiative, a multi-million dollar program designed to increase access to electricity throughout sub-Saharan Africa by providing seed money for renewable energy projects.

Rwanda's Minister for Infrastructure joined representatives from major overseas investors including the U.S. government's Overseas Private Investment Corporation (OPIC), at an opening ceremony for the \$23.7 million facility.

"Top quality developers like Gigawatt Global are the keys to success for President Obama's Power Africa Initiative," said Elizabeth Littlefield, President and CEO of OPIC. "After OPIC provided critical early-stage support through the ACEF program, Gigawatt smoothly and swiftly brought the project online to give Rwanda enough grid-connected power to supply 15,000 homes. Gigawatt Global in Rwanda is a clear demonstration that solar will be a key part of Africa's energy solution."

The project is located on the grounds of the Agahozo-Shalom Youth Village (ASYV) – a 144-acre residential community for youth who were orphaned during and after the brutal Rwandan genocide of 1994. The name "Agahozo" derives from the Rwandan for a place "where tears are dried", and the Hebrew for "live in peace".

"Anne Heyman, our Founder of blessed memory, held to a vision in which the Village practiced tikkun olam, the Jewish teaching to help heal the world. In addition to our work with Rwanda's most vulnerable children, we're now helping to improve the lives of thousands of people through sustainable electricity generation," said Laurie Toll Franz, ASYV's Board Chair.

Under a land lease agreement with Village management, fees from the solar plant will help pay for rehabilitation programs and other charitable expenses for the 500 children living at the orphanage. Gigawatt Global will also establish a training program at the Village high school for students interested in learning about solar power.

Power Africa: Experts: Private Investments Could Fast Track African Energy | Feb. 10 | VOA News

Source URL: http://www.bignewsnetwork.com/index.php/sid/230133681



VoNews

WASHINGTON - Energy experts say there is an urgent need for additional public and private investment to bring more electricity to Africa. They say governments need to work with the private sector to bridge power capacity gaps.

While sub-Saharan Africa has enormous untapped resources of gas, oil, coal, geothermal, solar, hydro and wind power, World Bank experts say one out of three Africans lives without electricity. Stephen Njiru, a director of Kenya's Geothermal Development Company and an energy advisor to the country's president, said governments have put the appropriate laws, initiatives and regulations in place, but still need private sector involvement to build capacity.

At a recent Washington conference on powering Africa, Njiru said officials need to brainstorm on ways to attract private sector investment and expertise to serve a huge market.

His country, Kenya, was one of the first nations to participate in President Barack Obama's Power Africa partnership, which aims to increase electricity capacity and access. The partnership brings together African governments, private companies and U.S. government agencies.

Power Africa has attracted more than \$20 billion in private sector investment for new electricity projects. Andrew Herscowitz, President Obama's coordinator for the Power and Trade Africa initiatives, said he's excited about projects like Solar Reserve, a U.S. company based in Santa Monica, California, that just won an award to build a 100-megawatt concentrated solar project in South Africa.

Gigawatt Global, a Dutch-American company, has just started a solar-power operation in Rwanda. "That's 8.5 megawatts of power for thousands of people," Herscowitz said. "There are plenty of people who want to invest in Africa who have great ideas for projects."

One way of fostering partnerships is to put players together, said Veronica Bolton Smith, program development manager at EnergyNet, the organizer of the Washington conference. Ultimately, she added, the goal is to remind investors and governments that "if you have access to electricity, you are able to read at night, able to cook properly. There's a realm of things that happen through access to electricity like creation of jobs, rural electrification."

But getting there isn't easy. Liberata Mulamula, the Tanzanian Ambassador to the U.S., said governments need help sorting through the many proposals.

"You know all these business people, all they want to come with projects, projects, projects. And most of our governments have limited capacity, we need financing, but financing for very credible projects, especially if we have to transform the power sector in our countries, we really need critical intervention but very coordinated interventions," she said.

Many governments turn to institutions such as the African Development Bank, the Millennium Challenge Corporation and the World Bank, for the skills to help African countries negotiate good, bankable and sustainable projects, the ambassador said.

Richard Bernard McGeorge, the lead infrastructure finance specialist at the World Bank, said to speed up private investment, government officials should put themselves in the shoes of the private



financiers. He explained that those financiers usually look for clarity, predictability and repeatability when deciding whether to commit resources to an individual project or to a country.

While industry experts say the African energy market is ripe for private sector participation, some investors fear they will be hurt by high costs, lengthy negotiations and potentially high risks. But development experts and Africa government leaders say the risk of inaction is higher - leaving millions of people without the electricity needed to improve their lives.

Power Africa: New Handbook to Accelerate Power Investments in Africa | Mar. 2 | Initiative for Global Development (Washington, DC)

Source URL: http://allafrica.com/stories/201503030603.html

press release

By Thuy Dinh

In Africa, more than two-thirds of the population lives without electricity. Current estimates suggest that Africa needs \$40 billion of new energy investment each year to begin to meet that demand. That is why in 2013, President Obama launched the Power Africa Initiative to catalyze investment in Africa's power sector.

One way to encourage that investment is by reducing the amount of time it takes to develop a project from the current 5-10 years, down to 3-5 years. A key part of that process is the negotiation of a power purchase agreement (PPA) which governs the production and sale of electricity, as well as the allocation of risks and responsibilities.

The more governments understand about what is required to have a "bankable" power purchase agreement, the less time it will take to negotiate those agreements. In an effort to provide that information in a very practical and usable form, the "Understanding Power Purchasing Agreements" handbook was recently published as part of the Power Africa initiative.

The handbook captures critical insights from American, African, and European power experts on best practices in the negotiation of fair and balanced power purchase agreements. The goal was to translate their expertise and technical knowledge into an accessible document.

It is crafted for the reader to gain a clear, concrete understanding of a PPA and includes information on the obligations, risks, and remedies that are found in PPAs.

As U.S. Secretary of Commerce Penny Pritzker noted in her opening note in the handbook, "Understanding Power Purchase Agreements established a common understanding of what is required for a functional and financeable PPA. Its publication is a significant step toward achieving President Obama's goal of increasing investment in power projects in Africa."

Since the PPA handbook project began in March 2014, the Initiative for Global Development (IGD) has been a leader in the development of this important resource, alongside the Overseas Private



Investment Corporation (OPIC), United States Agency for International Development (USAID), the World Bank, the African Development Bank, and leading international and African lawyers and bankers. The project was funded by USAID coordinated by the U.S. Department of Commerce's Commercial Law Development Program and the African Legal Support Fund.

IGD's support for the PPA handbook drafting project is part of its broader effort begun in June 2012 to bring more structure and standardization to power purchase agreements across the continent. "Our power working group, including leading companies such as Contour Global, Symbion Power, Africa Finance Corporation, General Electric Company, Standard Chartered Bank, Press Corporation Limited, Baker Botts LLP, Black Rhino Group, and SkyPower - all played an integral part in the discussion that led to the launch of the publication," said Robert Mosbacher, Jr., IGD's Chairman and former President & CEO of OPIC.

"Using this handbook as a guide for the development of specific power projects will help ensure that those projects meet international best practice standards and are much easier to finance by lenders.

IGD will work with a number of African countries on the adoption and implementation of this approach, which will help reduce transaction costs and speed up project development time. The hope is to provide more energy investments and contracts that will address Africa's energy challenges," stated Mima Nedelcovych, President & CEO of IGD.

The handbook can be accessed at: http://go.usa.gov/FBzH

To learn more about IGD's work on power, visit: http://www.igdleaders.org/programs/electric-power/

Power Africa: Obama's Power Africa Initiative Impact Encouraging | Feb. 19 | CAJ News Africa

Source URL: http://allafrica.com/stories/201502191343.html

By Tintswalo Baloyi

Johannesburg — ANDREW Herscowitz, Coordinator for United States President Barack Obama's initiative to improve access to power in sub-Saharan Africa, is encouraged by the impact of the initiative thus far.

Power Africa, the initiative, is the official country partner of the upcoming African Utility Week conference and expo scheduled for the Cape Town International Conference Centre in South Africa from May 12-14.

"Power Africa has achieved quite a lot in the first year and a half," Herscowitz said in an exclusive interview.

He said they had set an original goal of 10 000MW and 20-million connections and already had helped more than 4000MW power deals in the six focus countries reach financial close, representing roughly 40 percent of the original target.



"And now that we have really opened up the gate to the entire continent, I think we can expect to see a lot more projects advance really quickly," said Herscowitz.

"The other thing is, because we were reaching our goals a little bit more quickly than we expected and the model has been embraced even better than we could have hoped, President Obama tripled our goals last summer after one year, from 10 000MW to 30 000MW and 20 million connections to 60 million new home and business connections."

He cited some success stories in a number of countries.

"Well, to reach the big megawatt goals, you are going to have to do a lot of big gas projects and other types of projects like that. But one of the smaller megawatt successes is, for example, project in Rwanda."

The US government's Overseas Private Investment Corporation, gave a grant to a company called Gigawatt Global, which has recently commissioned 8,5MW solar project which is going to benefit rural communities. It is one of the first projects that really since Obama announced Power Africa.

He also raised the example of Liberia.

"When the Ebola outbreak was at its height, we saw that Power Africa activities, for obvious reasons, were getting stalled because of people having to leave the country and people were focusing on the more humanitarian and medical issues," said Herscowitz.

Power Africa reprogrammed about US\$2-million of Power Africa funds to enhance Ebola treatment units in the country.

However, he heaped reserved prominent praise for a project in Ethiopia.

"The one project that I really, really love and that we have our eye on and that we have high hopes for is the 500MW Corbetti geothermal project in Ethiopia."

Reykjavik Geothermal, a US company, has the right to generate up to 1 000 MW of geothermal power in Ethiopia and East Africa has between 15 000 and 20 000 MW in potential geothermal power which is a really great, clean renewable energy source.

He outlined the company's role at the African Utility Week.

"We're here to listen and to respond. Power Africa is working all over sub-Saharan Africa to increase access to electricity.

"So momentum has continued to build more and more but it is also started to show more results and results is what is getting us more interest.

When we work together we can have a massive impact. And that is how we are going to double access, together."



Power Africa: Obama's Power Africa Initiative Joins African Utility Week As Country Partner | Feb. 7 | Ventures Africa

Source URL: http://www.ventures-africa.com/2015/02/obamas-power-africa-initiative-joins-african-utility-week-as-country-partner/

VENTURES AFRICA – African Utility Week has announced that Power Africa, US President Barack Obama's initiative to improve access to power in sub-Saharan Africa, will be the official country partner of the upcoming conference and expo from 12-14 May at the CTICC in Cape Town. The conference and expo bring together utility professionals from across the globe to learn, share knowledge and debate the key topics that will secure the future development of Africa's power and water industries.

Power Africa is working with African governments, the private sector, and other partners to add more than 30,000 megawatts (MW) of cleaner, more efficient electricity generation capacity as well as increase electricity access by adding 60 million new home and business connections throughout all of sub-Saharan Africa. About partnering the Utility Week, Andrew Herscowitz, Coordinator for Power Africa, said "we are excited to participate and engage with thousands of power professionals from around the continent gathering at African Utility Week to discuss their shared challenges and how they can work together to improve the way Africans live and work. We look forward to continuing to be part of this on-going conversation and making a difference in the African power sector."

The event director of the African Utility Week, Evan Schiff described the summit as the right place for Power Africa to engage with stakeholders citing the 'strong synergies' both's respective strategies on the continent. "This is the only 'in territory' event, that Power Africa will be participating in, with US exhibitors supported by the US Commercial Services and Power Africa partners like USAID,OPIC, EXIM Bank, US Department of State, US Department of Energy and the Power Africa Private Partners. We therefore share a common goal with clear objectives," he said. The 15th African Utility Week and Clean Power Africa is expected to again attract more than 5000 attendees and feature 250 exhibitors, 190 speakers, eight conferences, free technical workshops on the expo floor, three high-profile plenary sessions and the coveted industry awards gala dinner.

African Utility Week and Clean Power Africa are organised by Spintelligent, leading Cape Townbased trade exhibition and conference organizer, and the African office of Clarion Events Ltd, based in the UK. This year, DNV-GL, one of the top three certification bodies, is the event's exclusive diamond sponsor, while Accenture, Building Energy, MarelliMotori, Rubbytad and Edison Power Group are the platinum sponsors.

Power Africa: Rwanda in Biggest Solar Park Venture | Feb. 8 | East Africa Business Week

Source URL: http://allafrica.com/stories/201502100383.html

Kigali — East Africa's first utility- scale solar plant was last week inaugurated in Rwanda and will provide clean energy for 15,000 homes.



The plant now makes up over five percent of Rwanda's current energy generation capacity of 155MW.

"Generation and provision of electricity to all Rwandans is a priority for the government. This plant produces 8.5megawatts of clean energy and is an important addition to help close our current energy gap," Rwanda's Minister of Infrastructure James Musoni said during the colourful event.

"We see this as an encouragement for the private sector to invest in the energy sector," he said.

Musoni said, "Government of Rwanda targets double digit growth of 11.5% during the five years strategic plan it has that goes up to 2018 and the availability and access to affordable and sustainable quality energy solutions will be key to the achievement of the above growth targets".

"Only with sustainable power shall we be able to promote private business, industrial growth, agriculture transformation, IT based services, and so many other projects," Musoni said.

This solar plant was established by Gigawatt Global, an American- owned Dutch company after government of Rwanda signed a Power Purchase Agreement (PPA) with it in July, 2013. This company was to build, operate and maintain the on-grid solar plant for a period of 25 years. The plant is worth \$23.7million, located at Agahozo Shallom Youth Village, Rwamagana district, Eastern Province, and it has 28,360 photovoltaic panels each with 300 Watt peak, eight inverters and is connected to the national grid. "The speed at which this project was completed is a tribute to the strength of the Rwandan government's institutions and their laser-focus on increasing Rwanda's generation capacity, as well as to the nimbleness of our team and partners which spanned eight countries," Managing Director Gigawatt Global Chaim Motzen said. He said, "This project proves the viability of financing and building large-scale solar fields in the sub-Saharan Africa".

"We hope that this solar field serves as a catalyst for many more sustainable energy projects in the region," Motzen said.

This project employed over 350 Rwandans both men and women with many more achievements reached by the local residents of the area.

"This utility- scale solar field at Agahozo Shallom Youth Village is a symbol of hope for the sub-Saharan Africa's several million orphans and 600million people without power, ushering in a new era of impact investing that we will hopefully be replicating throughout Africa," Gigawatt Global President Yosef Abramowitz said.

Government of Rwanda developed the energy sector strategic plan to ensure requisite power supply to sustain growth which goes up to 2018 and with such projects complete it gives it hope to realize the set goals.

The objective of this plant is to increase the country's total installed generation capacity to 563MW by 2017/18. This will be achieved through ongoing and future investments in hydro, peat, methane gas and solar plus other power generation options.

Currently the country has around 156MW generation capacity and with such projects coming up, the country is confident to meet its target by the set year 2018.



The government again has a target of connection the Rwandan people to have access to electricity from a low base currently of 23% to 70% by 2018 which calls for connection of close to 1.2million households from the current 500,000 household.

This is why the country needs such kind of partnerships to be able to realize such big targets and ambitions.

This project brought together an international consortium of financing partners such as the Netherlands Development Finance Company, London-based Emerging Africa Infrastructure Fund, the Norwegian Investment Fund for Developing Countries, Scatec Solar ASA, Norfund, among others.

Grants were received from the United States Government via OPIC's Africa Clean Energy Finance, and through Energy and Environment Partnership Programme plus the SEDI Labs served as a key project development partner and Norton Rose Fulbright of London as the international legal counsel.

Gigawatt Global is one of almost 90 private sector partners involved in the US Government's Power Africa Initiative which is designed to increase access to electricity throughout all of sub-Saharan Africa.

This project in Rwanda was developed by the ministry of infrastructure, the Rwanda Energy Group and the Rwanda Development Board.

AfricVideo: Scourge of Power Outages Holding Business Back in Africa | Feb. 10 | VOA News

Source URL: http://www.voanews.com/content/scourge-of-power-outages-holding-business-back-in-africa/2636082.html

Gabe Joselow

February 10, 2015 2:21 AM

NAIROBI— Power outages are a fact of life across much of Africa, with the near-daily blackouts affecting rich and poor countries alike.

A small business in Nairobi that began as a party supply outfit has expanded to serve restaurants and supermarkets - moving more than a ton of ice a day, while their custom-made ice sculptures decorate State House events.

It's an entrepreneurial success story. But Betty Mbithe, office manager of The Ice Man company, said the limits of the country's power supply puts the business in jeopardy.

"Sometime last year when we had three days without power, and we couldn't operate at all, because the machines need power, the cold room needs power, and no work can go on without any power," she said.

To keep their swans cold and to keep their customers happy, the Ice Man needs a 24-hour supply of power, but relying on Kenya's grid is proving costly, said Mbithe.



"It is a difficult business, especially if the power is high, because everything you make goes to the power, we pay back to the government for power," Mbithe said.

Africa is facing enormous power challenges. Some 600 million Africans have no access to electricity at all. That is 60% of the population.

Africa consumes less power than any other region in the world, but pays nearly the same average tariffs as the United States, and about twice as much as East Asia.

Speaking at the World Economic Forum in Davos Switzerland this year, African Development Bank President Donald Kaberuka said energy shortages are holding countries back.

"At this moment, every single African country is experiencing energy shortages and power outages. That is costing the continent 2% of GDP. In fact, an African leader says that we are a continent of miracles. If we are growing at 5% without enough electricity, think about what we could do if we had enough electricity," said Kaberuka.

The African Development Bank says weak infrastructure is the biggest challenge to electricity distribution.

Even richer nations like South Africa and Nigeria have fallen behind because of a lack of investment in power generation.

While each nation presents its own challenges, Kaberuka said increasing the trade of energy across borders may help to create more consistent supplies and bring down prices.

"It is not possible for our individual 54 countries to have energy security from their own domestic resources. We have to create viable regional markets for power. And that is possible," he said.

Investors are pouring money into renewable energy projects in Africa to help lessen the energy gap, but much more is needed.

Africa's booming population, expected to double by 2050, will continue to put pressure on power supplies.

And failure to improve generation could mean a lot of lost opportunity.

Africa: Powering the Mobile Revolution in Sub-Saharan Africa | Feb. 11 | Emerging Frontiers

Source URL: http://www.emergingfrontiers.com/article/20310-powering-the-mobile-revolution-in-sub-saharan-africa

The mobile phone revolution is in full swing throughout the world. Billions of people have been connected to the global economy, hundreds of millions are now able to access financial services for the first time, and countless others in traditionally underserved and rural communities can now receive essential healthcare services. The proliferation of cellular technology has spurred innovation and remarkably changed rural and frontier markets forever.



However there are still inhibitors preventing billions from accessing the mobile economy. <u>Endaga</u>, a rural telecom network provider that we have <u>covered previously</u>, is solving one crucial problem: rural cellular network connectivity for the world's most rural communities in places like Indonesia, Pakistan, and Somalia.

Another Kenya-based company, <u>BRCK</u>, sells portable "BRCKs" that create 3G and 4G wifi connections for entire rural and underserved communities for up to eight hours off of one battery charge for as little as US\$250.

Even after the connectivity problem has been addressed in frontier markets, an equally pressing problem remains – how do the world's most impoverished communities recharge their cellular phones? According to USAID, 600 million Africans, or 70 percent of the continent's population, live 'off the grid' without access to electricity. Those that have access - even in more developed countries such as Ghana, Kenya, and South Africa (where it isn't a good idea to invest in ice cream production) suffer pervasive blackouts as demand all too often outpaces electrical output. With the population of Africa growing amidst a persistent lack of investment into African utility infrastructure, ever higher percentages of people are living off the grid. For many millions of Africans and tens of millions in Asia and Latin America, intermittent or complete lack of access to consistent power production means that the simple act of charging cell phones is far from simple.

Shopowners in 'off-grid' communities will often sell the ability to charge cellular phones via a solar network. However for this service can be exorbitant and beyond the reach of many Africans. A journalist at Scientific American calculated that the cost of charging a cellular phone in rural Zimbabwe can run as high as US\$93 for one year. This quote assumed the use of a smartphone, and not a more prevalent 'feature-phone'; therefore the actualy cost is probably somewhat less. Still, in a country where the World Bank estimates that 2013 GDP per capita is \$953, the aggregated cost of charging and airtime can become cost-prohibitive for routine use. To put electricity prices into perspective, in some places in Africa electricity can cost 100 times as much as in the United States.

A number of startups are working on solutions to give those in 'off-grid' communities access to cheaper electricity. More often than not, the solution involves a form of solar technology as many that live in 'off-grid' locations record as many as 325 sunny days per year. Yet, a photovoltaic system in its most primitive form still costs as much as \$50, still out of reach for many even though they are both less expensive and safer over time than kerosene, which is the source of light and warmth for the majority in sub-Saharan Africa.

Where startups are innovating is via the introduction of financing models that make the upfront costs of solar power installation palatable for many in 'off-grid' communities.

The most famous and arguably most successful in this space is M-Kopa, a spin-off from the mobile money transfer behemoth, M-Pesa. <u>Backed by the Gates Foundation</u>, M-Kopa Solar charges users fees on a pay-as-you-go (PAYG) system. Similar to a mobile phone, the mobile device carries a SIM card that is used to process payments when it suits the owner's wallet. Recently, M-Kopa raised US\$ 20 million to fund expansion of their customer base from 50,000 homes to one million homes by 2018. M-Kopa Solar won the Zayed Future Energy Prize just weeks ago.

Out of Israel, <u>Nova Lumos</u> works to <u>power homes</u> in Africa through <u>mobile payments</u> based upon usage of a leased and easily self-installed photovoltaic system - and a downpayment of just \$20. Nova Lumos is backed by Israeli-based VCs such as Israel CleanTech Ventures.



Another Israeli company, <u>Energiya Global</u> - founded by the creator of Israel's first solar-based (<u>Arava Power</u>) public utility is working to bring 50 million people in Africa "on to the grid" through the installation of large scale solar plants by 2020. Backed by private and public sector funds, their <u>Rwanda solar field</u> is the <u>first utility-scale project to reach financial close and come online</u> under the Africa Clean Energy Finance (ACEF) program under the White House-spearheaded Power Africa Initiative. This field came online on February 9th, 2015.

In Tanzania, Off Grid Electric bills itself as the world's first scalable "solar energy as a service" company. The company charges about \$5 per month per connection following a \$6 initiation fee and is backed by Paul Allen's Vulcan Capital, SolarCity, and UK-based Zouk Capital. The company is targeting 200,000 customers by the end of 2015.

Finally, <u>Azuri Technologies</u>, another PAYG solar energy provider, is the largest solar PAYG provider in Sub-Saharan Africa. Azuri installs a solar home system that provides 8 hours of clean lighting each day and the opportunity to charge mobile phones at home. After paying a one-off installation fee for their system, the user then purchases a scratch-card each week for around \$1.50 to top-up their unit, replacing their current weekly spend of around \$3 on kerosene and phone charging.

The Economist recently released a <u>Youtube video</u> regarding the spread of solar energy noting that in 2009, just one percent of sub-Saharan Africa's 910-million people used solar energy. Now close to five percent, or 11 million people use solar.

With the continent increasingly dependent on mobile connectivity and the growing numbers of individuals without access to "the grid" it's no surprise that companies are finding ways to profitably service the need of providing basic, affordable power to under-serviced African communities.

Africa: Sub-Saharan Africa's electricity demand to quadruple by 2040: McKinsey | Feb. 20 | CNBC Africa

Source URL: http://www.cnbcafrica.com/news/special-report/2015/02/20/mckinsey-company-electricity-demand-private-investment/

Trust Matsilele

McKinsey & Company says it expects the electricity demand to quadruple by 2040. PHOTOS: Electrification Online/thebureauinvestigates

This is against the background of electricity challenges in sub-Saharan Africa.

McKinsey & Company released the Brighter Africa Report that looks at the electricity demand and possibilities of private sector investment in the energy space.

(READ MORE: US working to power Africa's electricity goals)

According to the report, inadequate electricity supply slows GDP growth by 1 to 3 percentage points annually and leaves 600 million Africans without electricity.



The report, which comes from the company's Electric Power and Natural Gas practice, highlights how Africa could meet a demand for electricity that is expected to quadruple in the next 25 years.

McKinsey & Company's report offers a management perspective on important topics in the energy sector across Africa, including electricity, Grand Inga (a proposed hydroelectric dam on the Congo River at Inga Falls in the Democratic Republic of the Congo), job creation, and the role of natural gas and renewable energies.

It also provides real-world examples from McKinsey aimed at helping governments, private sector investors and multilaterals navigate the sector's development.

Adam Kendall, principal at McKinsey & Company says the company chose to analyse electricity in the African context because they combine immense social impact with attractive investment opportunities.

"Interest in the topic is growing due to governments' increased openness to private sector participation, large gas discoveries in East Africa, and initiatives such as the United Nation's Sustainable Energy for All and the United States' Power Africa," said Kendall.

He added that sub-Saharan Africa's residential and industrial sectors that suffer electricity shortages also struggle to sustain GDP growth.

"In spite of this, we expect electricity demand to quadruple by 2040, creating a nearly 1,600 terawattper-hour opportunity. Instead of just forecasting an uncertain future, our analysis attempts to outline and assess the impact of a few extreme development pathways that could meet this demand," he added.

(**READ MORE**: 57% of sub-Saharan Africa is still without power)

"For example, national self-reliance will require more than 830 billion US dollars in investment, however, greater focus on renewable energy, such as solar and wind, would cost 153 billion US dollars more but save 21 per cent in CO2 emissions."

Kendall said the stakes are enormous.

"Indeed, fulfilling the economic and social promise of the region, and Africa in general depends on the ability of government and investors to develop the continent's huge electricity capacity. This report, which rests on McKinsey's electric power experience across Africa and in developing countries, serves to help governments, the private sector, and multilaterals navigate the sector's development over the next 25 years."

Ethiopia: AORA Solar & Ethiopia Delegation Meet In Spain On Solar Energy Collaboration | Feb. 26 | Clean Technia

Source URL: http://cleantechnica.com/2015/02/26/aora-solar-ethiopia-delegation-meet-spain-solar-energy-collaboration/

February 26th, 2015 by Glenn Meyers



Last December, I covered <u>AORA Solar and Ethiopia</u> about a preliminary agreement with the Ethiopian government to pilot AORA's Tulip solar-hybrid system.

AORA's solution functions on sunlight during the day, and seamlessly switches to run on bio-fuels at night or under cloud cover to provide 24/7 utility-grade energy.

AORA Solar's Chief Technology Officer Dr. Pinchas Doron demonstrates to the Ethiopian delegation the computerized control system.

To that end, a delegation from Ethiopia comprised of government officials from the Ethiopian Ministry of Water, Irrigation and Energy, the Ethiopian Energy Authority, as well as academics from two of Ethiopia's leading universities, visited AORA's Spain operation to learn more about AORA's technology, how it can enrich and partner with Ethiopia's academic institutions, and how it can benefit the rural locations throughout the country.

AORA Solar, a leading developer of solar-biogas hybrid power technology, today announced the visit of a delegation comprised of officials from the Ethiopian Ministry of Water, Irrigation and Energy, the Ethiopian Energy Authority as well as academics from Ethiopian universities. The visit provided Ethiopian officials the opportunity to learn more about the technology and the added value the innovation can bring to both Ethiopia's academic institutions and to rural locations where AORA's Tulip system is well-suited to operate.

For a country like Ethiopia, a major part of piloting AORA's system is creating opportunities for sustainable development. That means becoming a true and active partner in understanding, developing and applying the technology.

In a press announcement, we heard from members of the Ethiopian delegation, including Mintesnot Gizaw Terefe, the Associate Dean and Lecturer for the school of Energy Resource and Environmental Engineering at Addis Ababa University of Science and Technology:

This project is about more than electricity – it is about solar energy collaboration. Universities in developing countries have a mandate to serve local communities through researching and adapting technologies to address local problems. The Tulip is one such promising technology capable of doing so.

The visit comes on the heels of a partnership announcement between AORA Solar and the Ethiopian Government to pilot two AORA solar-hybrid systems at Addis Ababa University of Science and Technology and Adama Science and Technology University.

Tafesse Asrat Abera, an AISE Expert in Power Electronics and Off-Grid Photo Voltaic Systems at Adama Science and Technology University noted, "The Tulip encompasses a multi-disciplinary approach and therefore allows for numerous opportunities for student engagement. This involvement of the university in project development adds another dimension – process learning."

"Collaboration with local institutions is exactly what we are aiming for in making the Tulip accessible to developing nations," said Zev Rosenzweig, CEO of AORA Solar. "This activity complements our goal of creating opportunities for sustainable development."

The delegation was afforded an opportunity to view the solar receiver and turbine at the top of the AORA Tulip tower, the heliostats on the ground, and the sophisticated control system. As a result of



the visit, the Ethiopians will now have a sharper understanding of how this innovative technology functions, and they will be in a better position to prepare for project implementation, including a feasibility study that is scheduled to begin in a few weeks.

The initiative complements AORA's partnership with Arizona State University where installation of a Tulip is now underway. Discussions have started on possibilities of linking renewable energy research between the universities.

Ethiopia launched the Climate Resilient Green Economy Strategy in November 2011, which aims to achieve the development objective of being a middle-income nation by 2025. The Strategy's four pillars include the generation of energy from renewable sources for domestic and regional markets.

What follows is an interview I conducted with Barry Kulick, senior vice president, AORA-Africa.

CleanTechnica: Can you provide a timeline and location for the two AORA Tulip locations?

Kulick: It is anticipated that the feasibility study will commence around March, 2015, and will take about 3 months to complete. The construction will take about 6 months to complete depending upon the terrain and location. The two favored locations are Addis Ababa Science and Technology University and Adama Science and Technology University.

CleanTechnica: How long will each system take to build and will local personnel be trained?

Kulick: Each system will take about 6 to 9 months to build. Local personnel will most certainly be trained because we anticipate developing a motivated, committed and skill based workforce to service and promote the Tulip.

CleanTechnica: Will materials be local or imported?

Kulick: We hope to create jobs by manufacturing as many materials as possible in Ethiopia. For example, we should be able to manufacture the steel for the Tulip structure locally. Some specialized parts will need to be imported, but the goal is to have as much done locally as possible.

CleanTechnica: Does the Tulip system perform on a cloudy day?

Kulick: The Tulip provides grid stable power 24/7 in all weather. The technology is a solar hybrid, which provides light and power when the sun is working, but seamlessly is taken over by biofuel when the sun is under cloud cover or at night to provide uninterrupted grid stable power.

CleanTechnica: What role will universities have on these projects?

Kulick: The universities will have a crucial role to play using the Tulip as a platform from which to launch solar energy research, testing energy applications and developments in Ethiopia, and establishing faculty exchanges for these purposes with Arizona State University.

On a concluding note, having access to off-grid 24/7 electrical power plant is tremendously exciting news for many locations in Africa. I look forward to reporting on the development of these project. Here is a snapshot of what AORA Solar offers:

AORA Solar develops solar-biogas hybrid power technology that specializes in small-scale off-grid solutions. AORA's flexible power stations operate on both sunlight and biogas (or other alternative



fuel sources) in order to supply uninterrupted green power 24hrs/day. Each AORA station produces 100 KW of energy and 170 kW of heat as a by-product, which may be used for a variety of heating and cooling applications for agricultural, industrial or domestic use. AORA stations occupy just a half-acre of land and may be standalone or linked together into centrally controlled power plants for increased output.

Keep up to date with all the hottest cleantech news by subscribing to <u>our (free) cleantech</u> <u>newsletter</u>, or keep an eye on sector-specific news by getting our (also free) <u>solar energy</u> <u>newsletter</u>, <u>electric vehicle newsletter</u>, or <u>wind energy newsletter</u>.

Ethiopia: How Being Energy Efficient in Ethiopia Is Helping the Environment | March 2 | United Nations World Food Programme (Rome)

Source URL: http://allafrica.com/stories/201503040286.html

WFP Is expanding Its safe stove initiative in Ethiopia by distributing 24,000 additional safe, fuel-efficient stoves in the Ahmara region. The project, which began five years ago thanks to funding from Germany's KfW Development Bank, will also be generating revenues from carbon credits that WFP will reinvest in food insecure communities. We met a few families to see the benefits of these stoves for their lives and their environment.

BAHIR DAR - "Time" is the first word that comes to Dasash's mind when asked about the benefit of the improved stove.

"The time I spend collecting wood has been cut in half, the smoke is reduced, I don't burn myself anymore and my eyes are much more comfortable," Dasash Girmaye says, showing her new "tikikil" rocket stove, the name of which means "the right one" in Amharic.

The stove uses 60 percent less fuel than an open fire, and can last up to two years; parts can easily be replaced as the stoves are manufactured locally. The project's design also makes maintenance and installation of the stoves easier, as one person in each village is trained to install them.

"WFP has been distributing safe, fuel-efficient stoves in Ethiopia since 2009, but there's an additional advantage of this new phase of the initiative," explains Hakan Tongul, the head of WFP's programme unit in Ethiopia. "It will benefit people in the long term too, since each stove will generate revenue in carbon credit that we will then reinvest in the communities."

A total of 200,000 stoves will be distributed in several regions of Ethiopia, in areas where WFP has food assistance programmes such as MERET, school feeding and refugee assistance. There are two different stove designs, the "tikikil" rocket stove and the "mirt," a closed stove with a chimney to avoid smoke within the house.

Additional funding needed

The project has been registered and recognized by the United Nations Convention Framework on Climate Change (UNFCCC), which is a first for WFP globally. Every year, each stove should reduce



carbon dioxide emissions by one metric ton and generate one carbon credit valued at US\$1 on the global carbon credit market.

The environmental benefits are seen nearly immediately after a stove is installed, as the stoves reduce the need for firewood by half. Fuel wood is the main driver for deforestation and greenhouse gas emissions in Ethiopia, according to the Ethiopian Environmental Protection Authority.

Asnaku Kasse, who uses the "mirt" stove, explains that it also has huge economic benefits.

"I am saving on my firewood purchases, and I can use that money to buy condiments for sauces and clothes for the children," Asnaku says, adding that her eight children now enjoy hot meals every day when they are back from school.

The stoves project is already helping improve lives in Ethiopia, but WFP sees even greater potential.

"If we want to scale up this project and really make an impact on the lives of many people, we need additional funding," added Hakan Tongul of WFP.

After initial funding of US\$225,000 from KfW, the safe-stove project has now become a voluntary initiative of the UN World Food Programme in partnership with, the ministries of Agriculture, Forestry and Environment, Water irrigation and Energy, Education, Finance and Economic Development.

Ethiopia: Shortage of Infrastructure Power Supply - Industry Bottlenecks | March 2 | Ethiopian Herald

Source URL: http://allafrica.com/stories/201503030214.html

By Zelalem Girma

Metals and Engineering Development Institute (MIDI), held a consultative meeting with local and foreign stakeholders Tuesday here at the Ghion Hotel.

State Minister of Industry Tadesse Haile said that the industry sector remains an engine of economic growth as it plays a role as a basis for financial and technological development beyond creating jobs. The problems that are addressed by stakeholders need timely response and sustainable effort from concerned bodies to forward the industrial development of the country.

In his presentation of Institute's first six month performance, Planning and Information Directorate Director Tilahun Abay said though there is a need for 129.66 megawatt power provision it still remains 69.67 megawatt with recurrent blackout. This entails that there is a gap of 60 megawatt between the need and provision of power.

According to Tilahun, as the problems of power provision are recognized, the Institute has plan to identify root of the problem so as to devise solution by the end of this month by working closely with the Ethiopian Electric Utility.



Depending upon the report, local and foreign investors raised common bottlenecks in the sector. Thus, insufficient electric power supply, delay in imported capital goods and shortage of working capital are adversely affecting industries performance and their financial activities.

Institute Director General Workneh Delelegn said that a wide range of activities have been undertaken to build the manufacturing sector capacity and to make projects be completed on schedule and to enter into production work.

According to Workneh, with regard to solving technical problems of industries, 20 of them could get the support from maintenance experts and mechanic. It is also obligatory to work closely with industries and investment bureaus to support local investors.

Workneh also said that as the country has become one of the major performers in basic metals sector on the continent, there will be fierce competition in exporting and producing basic metal products by solving infrastructural and electric power problems. The Institute has plan to facilitate the development and transformation of metals and engineering technologies and to enable the industries become competitive.

Ghana: Ghana to Get Additional 3,665MW of Power in Five Years - President | Feb. 26 | The Government of Ghana

Source URL: http://allafrica.com/stories/201503030365.html

press release

President John Mahama has stated that an additional 3,665 megawatts (MW) of power would be injected into the national grid over the next five years.

The President announced this today on the floor of Parliament when he presented his third State of the Nation's address in fulfillment of Article 67 of the Constitution.

The State of the Nation Address is a constitutional requirement that enables the President to inform the nation about current conditions of all sectors of the country.

President Mahama disclosed that, "following power purchase agreements entered into with several Independent Power Producers (IPPs), and plants that Volta River Authority (VRA) is currently working on, an additional 3,665 MW of power starting from this year and over the next 5 years is expected to be injected into the power transmission grid."

This, he said would augment the existing generating capacity to power industry while addressing the needs of households.

He explained that the units include 360MW from SunonAsogli (Phase II), 750MW from SunonAsogli (Coal fired), and 350MW from Cen Power, and 360MW from Jacobsen.

The rest he said are 240MW from Amandi, 1000MW for GE, as well as 185MW for VRA (T4) and 220MW from VRA (KTPP).



The President promised to fix the current energy crisis that has bedeviled the country.

"The effect of this power crisis has affected all Ghanaians. We have been here before in 1998 2007 and I do not intend to manage it. I intend to fix it. I John Mahama will fix this challenge," the President emphasized.

He also disclosed that the completion of planned steam generation units on some current single cycle plants, namely TT1, CENIT and KTPP would add additional 330 MW of power.

These measures, he said, when realized, would assure an energy security into the future.

The President informed the House that he had authorized the Ministry of Power to procure and feed into the system, 1,000MW of emergency power as an immediate measure to resolve the current crisis, adding that "guarantees are currently being agreed for 450MW from Karpower ship (Turkey), 250MW from APR (UAE) and 300MW GE.

He also assured the nation that the new Ministry of Power was working urgently on proposals to restructure the power sector beginning with the Volta River Authority (VRA) and the Bui Power Authority (BPA), adding that the intention would be to bring the management of hydro plants under one entity.

On Health, President Mahama said Government would spend GH¢3billion cedis this year as indicated in the 2015 Budget to add 6000 new hospital beds between now and 2017."

He said 15 new Polyclinics would be constructed this year in addition to some 13 new District hospitals which are being constructed to bring quality health care to the people of Madina, Salaga, and Twifo Praso.

On education, the President said the free SHS programme would be rolled out beginning the 2015-16 academic year, adding that "367,000 day students will pay no fees and will benefit from the policy."

He also disclosed that government would distribute 10,000 made in Ghana sandals, 5,000 uniforms, 15 million exercise books and 30,000 PCs, 6 million text books to pupils.

As part of efforts to improve infrastructure in the educational sector, he said government would this year commence the construction of community based school in 50 communities.

President Mahama also informed the House that government in an attempt to reduce the financial burden on parents would this year offer 10,000 scholarships to brilliant but needy students while building the capacity of 5,500 science and mathematics teachers.

On agriculture, he said government would provide fertilizers, tractors and other agriculture inputs to farmers.

He also said government had put in place measures to ensure a reduction in fish importation in the country adding that cold stores and fish processing plants would also be established.

- ISD Gilbert Ankrah & Raymond Kwofie



Kenya Power to Invest Sh10 Billion in New Substations | Feb. 24 | Capital FM

Source URL: http://allafrica.com/stories/201502241072.html

Nairobi — Kenya Power will invest Sh10.45 billion to finance the construction of 36 new substations with the aim of reinforcing the country's electricity network, the company's Managing Director and Chief Executive Officer, Ben Chumo, has said.

Besides enhancing system in readiness for the evacuation of additional power generation under the 5,000+ MW plan, Dr Chumo said the new substations, to be located in 23 counties across the country, will help improve power supply to electricity customers as well as provide capacity to support economic growth.

Speaking during a press conference in Nairobi, Dr Chumo revealed that the substation projects are financed using the company's internally generated funds and borrowings and are being implemented under the Kenya Electricity Modernisation Project (KEMP).

"KEMP is a government-led initiative being implemented from this financial year with the objectives of increasing the transformation capacity by 412 MVA and development of 724 kilometres of medium voltage lines, increase number of households and businesses with access to electricity and to improve quality of electricity service in targeted areas," Dr Chumo said.

Among other objectives, he added, KEMP proposes establishment of new primary substations and associated lines as well as upgrade works on existing ones in identified locations countrywide.

It also proposes completion of automation projects for Mombasa and Nairobi as well as roll-out for Kisumu, Thika, Nakuru, Eldoret and Nyeri.

At the moment, Kenya Power has approximately three million electricity customers which include a milestone achievement of 443,000 connections realised last year.

The company has an ambitious target of connecting one million customer accounts in the subsequent years beginning this financial year ending June 2015.

Kenya: Africa's first grid-connected biogas plant commissioned in Kenya | Feb. 9 | African Review

Source URL: http://www.africanreview.com/energy-a-power/power-generation/africa-s-first-grid-connected-biogas-plant-commissioned-in-kenya

Johnnie McMillan, managing director of Tropical Power Kenya Ltd, said that his company commissioned the US\$6.5mn Gorge Farm Energy Park anaerobic digester in Kenya, which would consume 50,000 tonnes of organic waste sourced from an 800-hectare farm owned by VegPro Group.



"We expect to achieve a five-and-a-half year payback and that has been made possible by the aggregate tariff of what we sell to the grid, the locals around here and VegPro, which is East Africa's biggest exporter of fresh vegetables to the UK," said McMillan.

It took a year to construct the Gorge Farm Energy Park, stated Tropical Power Kenya officials. The power it is expected to add to the national grid would cost US\$0.10 per kilowatt hour compared to the US\$0.38kWh for diesel-generated power. In addition, the park will also feature a 10MW grid-connected solar PV plant.

Kenya: Kagame, Kenyatta Open 140mw Geothermal Power Plant in Kenya | Feb. 20 | The New Times

Source URL: http://allafrica.com/stories/201502200056.html

By James Karuhanga

President Paul Kagame and his Kenyan counterpart Uhuru Kenyatta, yesterday, inaugurated a 140-megawatt Olkaria Geothermal Power Plant in Naivasha, a town in Nakuru County, north-west of Kenya's capital Nairobi.

This comes as Kenya's main electricity producer, Kenya Electricity Generating Company Ltd (KenGen) is stepping up efforts to upgrade the country's power distribution systems to cut down costs.

The commissioning is the last phase of a larger 280MW Olkaria geothermal power project.

The new plant, it is hoped, will lead to reduced costs of production of goods, which ultimately leads to a lower cost of living in Kenya and the region.

Kagame thanked Kenya's leadership for the progress that the country continues to make, noting that the same progress is also contributing a lot to transformation of the East African Community (EAC).

The President noted that the commissioned plant is important not only to Kenya but to Rwanda, Uganda and other east African countries.

Kagame said as "we produce more electricity, as we continue to lower prices of electricity, what is expected is that the prices of other essential goods are also going to go down."

Wondering if it is guaranteed that prices would go down automatically as more power is availed, Kagame said a communication between government, industry, businesses and the citizens, should always suffice.

The necessity of such a conversation, he noted, is to avoid a situation where one will just assume that everything is okay.

"We create a healthier situation if we are able to speak to each other and reach some common understanding," Kagame said.



Referring to what a cement producer told the two leaders during an earlier tour of the plant, Kagame said apart from costs of production going down due to increased electricity production, "we need more good news" in the form of constant lowering of cement prices too.

This is a situation in Kenya, he said, but it is not much different from that in Rwanda.

"If the problem is addressed, almost automatically, the problem in Rwanda and elsewhere is going to be addressed as well."

Earlier on, Kenyatta, who said the development is another milestone in his government's journey to deliver an additional 5,000 megawatts in five years, also emphasised the essential impact of the power plant on households, among others.

"Take my word that the cost of goods will come down and this will lead to a lower cost of living for all Kenyans," said President Kenyatta.

"We will not achieve the transformation we want if we do not increase the quantity of power, reduce its cost and ensure its regular supply. You cannot fight poverty when you do not have power to run an economy with industries to create jobs and create wealth."

Kenyatta also noted that an industrial park that will be established in the area will demonstrate the actuality of the connection between geothermal power and industrialisation.

Kenya is now the seventh highest producer of geothermal power in the world as it unveiled the biggest geothermal plant in the world, Kenyatta tweeted.

Is the power enough?

Reacting to people's suppositions, Kagame said Kenyor the region - is not producing more than enough electricity.

"That can't be true because we know some single European countries that produce more electricity than the whole of Africa put together," he said. "So, what is it that they are doing with their electricity that Africa cannot do now?"

The region, or the continent, does not have enough electricity, he emphasised, further noting that even though clean and renewable energy is the way to go, people need to focus the conversation on how to deliver electricity.

"Before it becomes even clean for use, it must be there. The debate is about having sufficient electricity to power industries, schools, homes, and power the whole economy as it should be."

Last year, Rwanda sealed a power importation deal with Kenya, which will see the former import 30 megawatts of electricity from Kenya, and help ease the electricity woes of local manufacturers.

The agreement was part of a regional initiative to improve the power grid in the Northern Corridor states of Rwanda, Uganda and Kenya.

Transmission grids in Kenya and Uganda will need to be improved to facilitate the initial power sale of 30 megawatts by Kenya to Rwanda to be wheeled through Uganda by July 2015.



A memorandum of understanding that Rwanda, Kenya and Uganda entered into in 2013 allows the trio to share cheaper generation capacity as more power becomes available.

Rwanda also plans to import 400 megawatts from Ethiopia in the near future.

editorial@newtimes.co.rw

Kenya: Kenya Joins Top 10 Geothermal Producers | Feb. 20 | Capital FM

Source URL: http://allafrica.com/stories/201502200494.html

Naivasha — Kenya is now the 7th highest producer of geothermal power as it unveiled the biggest geothermal plant in the world which added an extra 280MW to the national grid.

Immediately after commissioning by Paul Kagame of Rwanda and President Uhuru Kenyatta in Naivasha, the government announced that it would further reduce the cost of power for industries and households.

The cost of power has been reducing drastically since October 2014, when President Kenyatta commissioned the first 140MW plant.

The Olkaria 1 Geothermal plant added an extra 140MW Thursday, in a move that moves the country to the top producers of clean energy.

With the additional power, Kenya increased its chances to host the global geothermal summit in 2020.

Kenya has since submitted a bid to host the international conference and is competing with United States and Japan, among others.

This is another milestone in the Jubilee Government's journey to deliver an additional 5,000 megawatts in five years.

The implementation of the 280MW geothermal project in Olkaria is a giant step in powering the nation, reducing the use of fuel in production of electricity and thus making it cheaper.

As a result, the cost of a kilowatt of electricity has dropped from Sh7.22 last August to Sh2.51 this month.

Speaking at the occasion, President Kenyatta termed the inauguration a "historic promise for the people of Kenya and East Africa."

"This commissioning ceremony is the culmination of immense exemplary effort, colossal investment and admirable collaboration by many partners," he said.

The President said geothermal generation is powering the region's transformation story.



He said the transformational agenda is aimed at growing the East African countries economies fast enough to generate prosperity for its people.

He said this requires a commitment to invest in projects that enable our people and their enterprises to work better, produce more and compete well.

"It also requires us to dedicate our leadership to attract investment and capital into our domestic and regional economies," he added.

President Kenyatta pointed out that regional leaders have realised that the transformation agenda could be accomplished both at country and regional levels.

It is for this reason, he said, that the leaders had jointly embarked on ambitious and visionary infrastructural projects to accelerate regional integration, catalyse economic growth to make their countries the most compelling investment destinations globally.

"Ever since the endorsement of this joint resolve, East African leadership has demonstrated commitment, enthusiasm and inspiration," he added.

The Head of State said Kenya is now among global leaders in the investment and scale of development in unlocking the geothermal promise.

"We are also global pioneers in deploying the cost-saving well-head technology to ensure that our investment goes farther. Energy costs contribute significantly to the cost of producing goods and services," he said.

He said the government is committed to reducing the cost of energy and production to accelerate development. He said the generation of 280MW has reduced the cost of electricity by 30 per cent.

He called on all producers to pass the benefits of cheaper power to consumers.

President Kenyatta disclosed that the benefits of increased power production have been felt in all parts of the country. More importantly, he said 17,551 primary schools have been connected to electricity.

By April 30 this year, all 21,168 primary schools in the country will have been powered through grid extension and solar units.

"By Labour Day, all our primary schools will have been connected to power. We expect a dramatic improvement in school performance with equitable access to modern ICT learning," he said.

Present were several Cabinet Secretaries, Nakuru County Governor Kinuthia Mbugua and the Japanese Ambassador to Kenya Tatsushi Terada among other senior Government officials.

Kenya: Menengai Ready to Produce 130MW of L Power | Feb. 23 | The Star

Source URL: http://allafrica.com/stories/201502231449.html



The Menengai geothermal project is ready to generate 130 megawatts of electricity, according to Silas Simiyu, managing director of Geothermal Development Company.

He said once the energy is connected to the national grid it will push power prices down further.

"As of January this year, GDC has drilled 25 wells with steam worth 130MW. Three independent power producers are now moving to the project to build the power plants and we hope that by end of the year, Menengai will be streaming electricity to the grid," he said.

"That is how electricity from geothermal will in turn help to lower the cost of your bills. Ultimately, we know that once the geothermal power from the different fields come on line, our bills will be reduced by more than 30 per cent."

Simiyu said the country stands to save an estimated Sh13 billion annually that would have been used to generate power to bridge the shortfall through thermal power now displaced by geothermal energy.

The country is likely to attract more investors as a result of cheaper, reliable electricity, he said, saying this will push down prices of consumer goods.

"Investors will greatly save on energy and commodity prices will drop and thereby spur consumption. Besides, the world over, affordable and reliable power attracts manufacturing, which creates employment," he said.

Simiyu said German government has approved a Sh9.6 billion loan for drilling 20 wells in the Bogoria-Silali basin. This is expected to open up prospects with a target to generate 200MW by end of 2016.

Liberia: OPIC CEO to Visit Liberia | Mar. 1 | Liberia News Agency

Source URL: http://allafrica.com/stories/201503031605.html

The Overseas Private Investment Corporation (OPIC) President and Chief Executive Officer Elizabeth Littlefield will lead a delegation to visit Liberia shortly.

The visit will lay the ground work for future OPIC involvement and help introduce investors to potential opportunities in Liberia.

It will be a part of a larger visit to West Africa, according to information released by the U.S. State Department.

During her recent official visit to the U.S., President Ellen Johnson Sirleaf and delegation held talks with Littlefield in Washington, D.C.

OPIC has made major efforts to identify eligible U.S. investors willing to invest in Liberia in the aftermath of the civil war, the State Department Fact Sheet indicated.



It said the agency provided long-term loans and risk insurance to realize those investments and has been able to build a portfolio of loans that now includes a school, a small and medium enterprise loan company, and housing.

OPIC is crucial in the implementation of the U.S. Administration's Power Africa Program and supports private sector-led development and recovery.

In 2013, Liberia was selected as one of the initial six focus countries under President Obama's Power Africa Initiative.

Under the U.S. partnership with the Ministry of Lands, Mines and Energy, Liberia's Rural and Renewable Energy Agency, and the World Bank, the goal is to increase energy service to as many as 800,000 Liberian households and businesses over the next five years.

LINA

Liberia: President Sirleaf Meets Ranking U.S. Congressional Leaders and Members; They Express Strong Commitment to Assist Liberia's Post-Ebola Efforts | Feb. 27 | Liberia Government

Source URL: http://allafrica.com/stories/201502271734.html

press release

President Ellen Johnson has met with key Congressional leaders and ranking members of both Houses of the U.S. Congress in Washington D.C.

The Liberian leader is currently visiting the United States of America to show appreciation to the U.S. Government and people for standing with Liberia during the Ebola crisis.

According to a Dispatch from Washington, D. C., U.S.A., President Sirleaf and delegation on Thursday, February 26 held discussions with House Democratic and Minority Leader Nancy Pelosi, Senators Lindsey Graham and Patrick Leahy of the Senate Subcommittee on State, Foreign Operations, and Related Programs; Senator Jeffery Flake and members of the Senate Foreign Relations Committee; Senator Chris Coons of the Senate Subcommittee on Appropriation; Representative Ed Royce, Chairman of the House Foreign Affairs Committee along with Ranking members including Representatives Elliott Engel, Chris Smith and Karen Baas.

In separate remarks at the different meetings, the U.S. Senators and Representative welcomed President Sirleaf and delegation at the Capitol Hill and held discussions on many critical issues.

Democratic Minority Leader Nancy Pelosi recalled President Sirleaf's visit in 2007 when she addressed the Joint Session of both Houses and congratulated her for her impressive leadership particularly during the Ebola crisis. "You are a true friend to the American people and we appreciate the special recognition accorded the late Congressman Donald Payne. Let me express our



admiration for you and say how grateful we are for the progress made by Liberia in containing the Ebola virus disease," the Democratic leader Pelosi emphasized.

Congresswoman Pelosi assured President Sirleaf that the U.S. will stand by Liberia as the country works toward reaching the zero new case level and the post-Ebola recovery plan. "We can achieve this because members of the U.S. Congress have a fan at the bi-partisan level. We are very impressed with your courageous leadership, Madam President," Madam Pelosi indicated.

For his part, Senator Chris Coons noted that Liberia deserves the support of the United States of America. The influential Delaware Senator, who is a ranking member of the Senate Appropriations Committee, assured President Sirleaf that Congress will ensure that Liberia's situation gets better.

The Senators and Representatives who met the Liberian President pledged to use their respective offices, influence and power to give Liberia the needed support to move the fringes of Ebola to a plain of sustained recovery and development.

The need for sustainable electrical power for Liberia under the Power Africa Program was echoed by Senator Coons, Representative Royce and other Congressional leaders who met President Sirleaf.

"Power is of critical importance to Liberia's recovery process. All the developmental processes in Liberia are hinged on the provision of sustainable energy supply and we are committed to helping Liberia meet this important goal", Congressman Royce emphasized. He said rebuilding the healthcare system and health infrastructure are also critical to efforts aimed at helping Liberia recover from the impact of the Ebola virus disease.

For her part, President Sirleaf told the U.S. Congressional leaders and members that Liberia is back in business. "We have only come to say thank you on behalf of the people and in my own name for all that you have done for us, especially when we cried out for help and you responded in no small measure," President Sirleaf stressed at the various meeting with leaders of both sides of the U.S. Congress.

She pointed out that the Government was glad that kids were now back in school, markets are buzzing again, the borders have reopened and the restriction on people's movement are all lifted. She also indicated that most importantly, the spirits of Liberians are lifted and reignited in hope and that the country was now back to the business of development.

The Liberian Leader informed the U.S. Congressional leaders about the current state of the Ebola fight and about the country's plan for post-Ebola, seeking the U.S. Government's full support for Liberia's recovery process now that Ebola is being contained.

Nigeria: Electricity Firms Get Additional N39.5b Intervention Fund to Boost Supply | Feb. 11 | The Guardian

Source URL: http://allafrica.com/stories/201502120975.html

By Mathias Okwe



MORE money (N39.527 billion) was yesterday released to four distribution companies (Discos) and six generation companies (Gencos) who have met the condition precedent for the Central Bank of Nigeria (CBN) intervention fund of N213 billion to boost efficiency in the power sector.

The N39, 527 billion released yesterday brought the amount so far disbursed to over N50 billion, as penultimate week, the bank released the first tranche of N18.261 billion to two DISCOS and three GENCOS, as follows: Ibadan Distribution Company Plc, N11.367 billion; Eko Distribution Company Plc, N5.164 billion, Jebba Hydroelectrics Plc, N816.627 million; Kainji Hydroelectrics Plc, N234.815 million and Shirioro Hydroelectric Plc, N678.650 million respectively.

The electricity firms that benefitted yesterday and the amount they got are as follows: Enugu Distribution Company, N10.256 billion; Kano Distribution Company, N7.638 billion and Port Harcourt Distribution Company, N6.581 billion. The GENCOS that benefited yesterday were: Jebba Power Plant, N2.380 billion; Kainji Power Plant, N68.5 million; Shiroro N1.978 billion; Delta, N3.918 billion; Egbin, N5.106 billion; and Gregu, N938.991 million.

The loan which has 10- year repayment duration is at a 10 per cent interest rate per annum.

Speaking shortly before the presentation of the symbolic cheques for the amount, the CBN Governor, Godwin Emefiele, reminded them that the funds were not grant, hence they should deploy it effectively to enhance their operations, impact on the overall economy and meet up with the repayment timelines.

He said: "This facility is meant to catalyze power sector, therefore we expect you to deploy for the procurement of your equipment and metering to enhance your generation and distribution capacity aimed at ensuring power sufficiency which should ultimately impact on the economy of Nigeria."

Meanwhile, the Executive Chairman of the Nigerian Electricity Regulatory Commission (NERC), Dr. Sam Amadi, has cautioned the power sector firms against continued outage in the country following the CBN intervention and directed them to deploy the funds to ensure optimum efficiency, warning that henceforth, any firm found culpable would be seriously sanctioned.

His words: "Let me remind you again that this facility is not a grant but a loan which you have to repay. It is specifically meant to assist you upgrade your operations to cut down on losses and improve power supply to Nigerians. Now, with this assistance, NERC would no longer tolerate outage and any power firm, be it a disco, genco or TCN, that is found culpable for outage will be seriously sanctioned."

In a related development, the Director- General of Bureau of Public Enterprises (BPE), Mr. Benjamin Dikki, has declared that the BPE in conjunction with other stakeholders will monitor the deployment of the facility by the beneficiaries, insisting that the facility is meant to assist particularly the discos who have been incurring about 40 to 60 per cent of power generated due to decaying power infrastructure. He said the fund was designed to enable them replace such infrastructure.

His explanation is contained in a statement by the Acting Head of Public Communication of the BPE, Mr. Alex Okoh, after a radio programme.

The statement quoted Dikki as saying during the radio programme that "from conception of the power sector reforms in Nigeria, it was calculated that 40-60% of power generated was lost due to



technical faults and inefficiencies in transmission and distribution occasioned by inadequate investment and poor maintenance culture.

Nigeria: Govt Urged to Liberalise Electricity Meter Market | Feb. 11 | The Guardian

Source URL: http://allafrica.com/stories/201502111414.html

By Sulaimon Salau

IN a bid to fully meter and adequately evaluate the consumption of all electricity consumers in the country, the Federal Government has been urged to liberate the electricity meter market and create a conducive business environment for the indigenous meter manufacturers to thrive.

The Executive Secretary, Meter Manufacturers Association (EMMA), Muyideen Ibrahim, in a chart with journalists in Lagos recently, also called for Federal Government's support to arrange a special intervention fund for local meter manufacturers.

Soliciting for a five per cent (interest rate) intervention fund, he said this would enable locally produced meters to be sold at a very competitive price like their counterparts from China.

He argued that the local manufacturers have the capacity to fill the current metering gap in the country.

His words: "The Nigerian Electricity Regulatory Commission (NERCís) statistics showed that the metering gap is about 1.5 million per annum. That translates to about 3 million meters in two year. Only one of our member has a production capacity of about 1.2 million meters yearly, which translates to 100,000 per month, indicating that only two members can even meet the demand of the whole country, so we have the capacity.

"Indeed, most of the manufacturers also have provisions for expansion of their facility in case of an upsurge in demand," he stated.

Justifying the call for liberation, he said, ithe present situation allows that the manufacturers can only sell to Discos (distribution companies), so, what we are clamouring for now is for the government to libralise the market so that individuals that needed meter can easily approach an approved NERC vendor to buy the meter.

iThis system would encourage more Nigerian to acquire meters. What we are experiencing now is crazy bill or estimated bill because some of the Discos are not willing to install meters for consumers, so what we want is liberalization, so that manufacturers can sell meters directly to consumers, î he said.

The Permanent Secretary, Ministry of Power, Godknows Igali, had earlier lamented the huge metering gap in the electricity sector, promising government support to the operators.



"50 per cent of electricity consumers in Nigeria do not have meters, they are all placed under estimated billings and the President Goodluck Jonathan is not happy about this because a lot of people complained to him.

So, he as approved the revalidation of all the contracts that had hiccups with the defunct Power Holding Company of Nigeria (PHCN). On that note we will be giving about 1 million meters to Nigerians based on the existing contracts."

He further assured that government would also provide funds that private companies can assess as a loan to boost production of meters.

"We are still working on the details and we will announce to everybody when it would be lunched," he said.

Nigeria: NERC Prescribes Micro-Grid Power Generation for Industrial Clusters | Feb. 26 | The Guardian

Source URL: http://allafrica.com/stories/201502270621.html

By Emeka Anuforo

Abuja — THE Nigerian Electricity Regulatory Commission (NERC) has urged manufacturers to embrace micro-grid power generation model for industrial clusters, to ensure cost effective and reliable electricity for production.

Already, NERC has unfolded plans to engage industrial clusters to form Special Purpose Vehicles (SPV) that can procure additional power dedicated to their respective industrial clusters.

NERC Chairman, Sam Amadi said at a NERC stakeholders' forum in Abuja that "although our regulatory interventions are leading to licensing of independent power producers who have financial and technical capabilities to generate more megawatts, we expect that it will take a couple of years before we see significant increase in available capacity, because of the lead time required to construct and commission power plants.

"The good news is that NERC has started to provide framework for dealing with this challenge. A few years ago, we issued a regulation authorising embedded generation and independent distribution of electricity.

"The embedded generation regulation allows an independent power producer to embed power within the network of the local distribution company without going through the trouble of connecting to the transmission network. This allows distribution companies to procure small power and dedicate it to ring-fenced customers who could pay slightly higher price for 24/7 electricity supply."

On the SPV, Amadi said the initiative would encourage adequate power supply to industries.

He explained: "Industries within a cluster can form an SPV and build equity and secure financing to construct 10 megawatt plant that will sell power to the local distribution company to serve exclusively to them. This ensures that they have relatively cheaper grid power and also secure sustainable



business model for the supply of electricity. This initiative further increases the energy available for the local distribution company to supply to residential.

"NERC wants to promote this model as an answer to the acute shortage of electricity we will continue to experience until bulk trader procured power enters the market and NIPP power plants deliver their full capacity. We want to mobilize all industrial clusters in Nigeria to generate embedded power through a sustainable and market based business model that mobilizes resource quicker and more efficiently.

"We have to retool the old model of capacity growth through grid-based large power plants. Nigeria can champion a new model through micro-grids that leverage on available local feedstock and local financing through low-risk self-help. We have successfully tried this model in community development. It can succeed in electricity generation."

Nigeria: Presidential Taskforce Targets 6,000 Megawatts By June | March 3 | The Guardian

Source URL: http://allafrica.com/stories/201503040481.html

By Emeka Anuforo

Abuja — THE Presidential Taskforce on Power (PTFP) has projected the attainment of 6,000 megawatts (mw) electricity capacity starting from June this year.

In a newly-published 'PTFP 2014 Yearly Report' released Tuesday in Abuja, PTFP Acting Chairman, Mr. Clement Oke, said the 80-page report provides accessible and factual information on the Nigerian Electricity Supply Industry (NESI) to industry stakeholders.

He said: "It is a substantive report that includes progress reports on 2014 activities, risks and threats, PTFP-led interventions as well as 2015 sector projections from the PTFP perspective as the power sector reform monitoring vehicle."

The taskforce stressed the need for TCN to improve performance, noting: "Energy should increase above 6,000mw (by June) and earned revenue collection should exceed 75 per cent in the NESI."

It further projects a deliverable capacity of 8,000mw by year ending even when capacity generation is 2,844.03mw as at March 1, with a 12,800mw peak demand forecast.

To achieve this, PTFP said there is a projected good outlook on gas supply and infrastructure development up to year 2020, saying that its records show that 1,054 mmscfd of gas will be added to the network in 2015 rising from 1,820 mmscfd in 2014 to 2,874 mmscfd in 2015.

"Most of the gas will go to power generation while the balance will be for industry use and export through the West African Gas Pipeline (WAGP)," it added.

The report, which advocated for an upward growth of spinning reserves by 300mw, stated: "To better support system frequency stabilisation, spinning reserves targeted upwards to 600mw will be



pursued," adding that overall SCADA monitoring of grid system should improve above 75 per cent in 2015.

The taskforce in the report urged the 11 distribution companies (Discos) to be more aggressive in deployment of customer meters even as other industry operators work towards increasing the volume of power generation.

On TCN, it stressed: "Many of the issues plaguing TCN performance over the years must be solved in 2015. TCN management must show credible leadership and drive improvements with an ownership mentality focusing on proper priorities. The System Operator (SO) must effectively manage system reliability instead of remaining in reactive mode."

"The TSP must regain maintenance control of the network as well as improve both the generation companies (Gencos) and Discos interfaces to allow 8,000mw to reliable flow 24 hours a day. The Federal Executive Council (FEC) pledged investment of \$1.6 billion (about N320.880 billion) should be delivered and this money should be leveraged for greater effect with a financial framework in support of system expansion plans must be identified."

Nigeria: Schneider Electric, Naptin to Train 400 Electricians | Feb. 10 | This Day

Source URL: http://allafrica.com/stories/201502101018.html

By Ejiofor Alike

Schneider Electric, the global specialist in energy management, in partnership with the National Power Training Institute of Nigeria (NAPTIN) will train over 400 electricians in a programme, which begins next month.

Speaking at the inauguration of the ultra-modern Schneider Electric laboratory at NAPTIN regional training centre, Ijora, Lagos, the Country President, Schneider Electric, Mr. Walid Sheta, reiterated the company's commitment towards the development of skilled personnel in the sector.

"Our goal has always been to improve the quality of personnel in the sector. With this laboratory and the training programme, retail electricians can get affordable, world class training and certification. Not only will the training increase their skills and boost their confidence, our homes will also be safer if electrical installations are done by properly trained and certified electricians" he said.

In his remarks, the Director General, NAPTIN, Mr Reuben Okeke noted that, inadequate capacity building in the Power sector has led to skill gap in generation, transmission and distribution and also in the areas of management of regulatory and policy framework but with partners like Schneider Electric, adequate training is becoming a reality. The commissioning of the Schneider Electric's laboratory equipment has directly given the power sector a boost as a result of the quality of training now available." Okeke stated.

The one and two-day training sessions offer about 10 modules and one certification session course in electricity for installers.



The modules include among others: 'Choosing equipment', 'Avoiding fake products', 'Motor starters and Industrial components', 'Motion sensors and cable management systems', 'and 'Changeovers', 'Refining Electricity Skills', , 'Working safely', and 'Alternative power'.

There will also be trainings on Business Management.

The Retail Electricians Training Programme will be facilitated by Schneider Electric and NAPTIN trainers who were trained for one year in France by Schneider Electric.

Though the electricians in Schneider Electric Nigeria retail network will pay a stipend for the training sessions, more than 50 per cent of the fee is then reimbursed to installers active in the retail network in the form of credit notes to buy Schneider Electric products.

The trainings will take place at the Schneider Electric laboratory, with didactical benches and a cubicle room for domestic wiring.

Tanzania: 1 Million Solar Homes Project Announced By President of Tanzania | Feb. 17 | Clean Technia

Source URL: http://cleantechnica.com/2015/02/18/1-million-solar-homes-project-announced-president-tanzania/

February 18th, 2015 by Jake Richardson

The Tanzanian government has announced an initiative to get solar power to one million homes by the end of 2017. It is expected that achieving this goal will also create about 15,000 solar jobs and create solar power for about 10% of Tanzania's population. About 80% of Tanzania's citizens currently use candles and kerosene for light. Both of these light sources can cause fires, which injure and even kill people each year. They are also quite polluting and bad for people's health.

The quality of light from kerosene or candles is also not exactly of the best quality, meaning it can be difficult to read with. Students can't study as long as they need to under such conditions and adults can't read extensively.

"We know Tanzanians will flourish with access to clean and reliable light and electricity access. In partnership partnership with Off Grid Electric, our country can lead the way toward universal energy access by 2030," explained Tanzania's President, Jakaya Kikwete.

The solar company Off Grid Electric Ltd. will implement the program, which is also supported by USAID, OPIC, IFC, and Sunfunder. Off Grid allows Tanzanian customers to get solar power technology for payments as little as 20 cents a month. Many Tanzanians pay a considerable amount for their energy, so allowing them to pay less for solar is great while also allowing them to get clean, affordable, safer, and better quality lighting. Over \$100 million will be invested to make the project a success.

The first phase is \$7 million for solar power in northern Tanzania for 100,000 homes and businesses.



"Having served as the US Ambassador to Tanzania, I've seen how improving access to electricity can empower vulnerable communities to escape a cycle of extreme poverty. By harnessing innovation to implement scalable, low-cost solutions, we can bring clean, renewable energy to Tanzania's most vulnerable communities," said USAID Deputy Administrator Alfonso Lenhardt.

Wood and charcoal are used extensively in Tanzania for cooking fires, but burning wood constantly contributes to deforestation. Cooking fires don't only cause burns and larger, destructive fires. Cooking fire smoke also can, and in many cases does, cause respiratory illness.

Most Tanzanians live in rural areas, where there is not consistent access to electricity. Solar power does not require a grid to function, so it is a good solution in these areas.

The 1 million solar homes project is ambitious, but certainly is achievable. It will also make a huge difference in the lives of many Tanzanians.

Image Credit: Tanzania by William Warby, via Wiki Commons

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Tanzania: 250,000 New Customers in Tanesco Action Plan | Feb. 23 | Tanzania Daily NewsFeb 23 | Tanzania Daily News

Source URL: http://allafrica.com/stories/201502231091.html

By Rose Athumani

THE Tanzania Electric Supply Company (TANESCO) plans to connect 250,000 new customers with electricity this year, promising better and improved services to the public.

In an exclusive with the 'Daily News', the utility firm's Managing Director, Mr Felchesmi Mramba, has told the 'Daily News' that its customer base has been increasing from 700,000 in 2011 to 1.4 million in 2014.

He attributed the increase to better and improved services and Strategies that has been put in place by the Ministry of Energy and Minerals and the state-run utility company.

He added that the increase was also due to reduction of connectivity charges and more efforts in the Rural Energy Agency (REA), which has seen more connected to electricity in rural areas.

Mr Mramba promised the public of more improved services from a number of restructuring exercises going on within the utility firm, which will be reflected in the services that will be provided.

He said this year will bring remarkable changes as a number of big natural gas pipeline projects in Kinyerezi come to completion, stressing that electricity woes will be a thing of the past for the public and the country's economy will grow at a faster rate.



The Kinyerezi projects include Kinyerezi I; a 150MW plant project, which is a dual fuel and gas plant. This means that if it is completed before natural gas starts flowing, the government might start by using fuel.

The Kinyerezi II, a 240MW combined cycle project, Kinyerezi 3, which is a joint project with China's Shanghai Electricity Power Company, which will have 60 per cent, while TANESCO will have 40 per cent of the share.

There is also Kinyerezi IV, another joint venture with a Chinese company that will enable generation of 330MW, while other projects are in Mtwara, which include a 400-600MW project, a joint venture with a US company, Symbion.

Meanwhile the firm is holding talks with development partners to release over 150 US million dollars that were withheld pending the Escrow Tegeta scandal.

"I cannot say when they will release the funds; but we are in talks with the development partners and are hopeful that they will release the funds, which will go a long way towards solving challenges that TANESCO is facing," Mr Mramba explained.

Tanzania: AfDB Approves Sh261 Billion for Tanzania-Kenya Power Line | Feb. 20 | Tanzania Daily News

Source URL: http://allafrica.com/stories/201502200033.html

THE African Development Bank (AfDB) has approved a \$145 million (about 261bn/-) loan to fund the building of an electricity line between Tanzania and Kenya to improve regional power connections.

AfDB said in a statement that the funding would help construct 507.5 km of transmission lines and substations along its path to allow for the transfer of 2,000 megawatts (MW) of electricity in either direction between Kenya and Tanzania.

"The Kenya-Tanzania Interconnection Project plays an important role in promoting regional integration through power trade," AfDB said in a statement.

Earlier this month, the two countries said they were seeking a consultant to oversee the construction of the line. The Kenya-Tanzania interconnection project will involve the construction of a total of 507.5 km of 400Kv high voltage alternative current (HVAC) transmission line in double circuit from Isinya Substation in Kenya to Singida Substation in Tanzania.

A total of 93.1 km of the line is in Kenya and 414.5 km in Tanzania. The transfer capacity of the interconnector is designed for 2,400 MW.

The associated substation works include the extension of the existing Isinya (Kenya) and Iringa (Tanzania) substations to include 400 kV transformers, and the construction of a new 400kV substation in Arusha.

East Africa has some of the fastest growing economies on the continent but electricity shortages deter investment, pushing up business costs and sustaining poverty and inequality.



Kenya is adding 5,000 MW on installed capacity by 2017 from about 1,664 MW now. Tanzania aims to double its generation capacity to 3,000 MW by 2016.

Tanzania, Kenya and Zambia said in December they will spend \$1.4 billion to link their power grids by 2018 and create a regional power pool for trading electricity.

Ethiopia and Kenya are also constructing a power line aimed at improving electricity supply between the two countries. Southern Africa already has a series of interconnections linking countries, including South Africa, Zambia, Zimbabwe and Mozambique, which allows them to trade power.

Tanzania: EWURA Introduces Model Contracts for Energy Sector | Feb. 18 | Tanzania Daily News

Source URL: http://allafrica.com/stories/201502180743.html

Dodoma — THE Energy and Water Utilities Regulatory Authority (EWURA) has drafted a model agreement to guide all investments in the energy sector.

Addressing journalists, the Director General of EWURA, Mr Felix Ngamlagosi, said the model agreement seeks to create standard contracts for all investors in the energy sector.

"As a country, we ought to have these indicative agreements since many investors come up with their own contracts and this makes negotiations very length.

"When negotiations take long, the costs of the projects increase and a lot of time is wasted. Tanesco has faced a number of challenges when dealing with contracts drafted by investors," the EWURA boss explained.

He noted further that many investors, particularly from foreign countries, come with their own intents and thus the need for indicative agreement to regulate the sector.

Mr Ngamlagosi was optimistic that the model would enable the state-owned power utility Tanesco to efficiently negotiate contracts with independent power producers wishing to invest in power generation.

The EWURA boss said that the decreasing prices of oil both in the world and local markets will lead to reduced water tariffs since costs of pumping water using fuel would fall as well.

"If electricity tariffs have been reduced due to the drop in prices of oil then it is high time water tariffs decrease," he noted.

He explained further that the authority is keeping a closer watch on oil prices and costs of producing water to consider lowering the tariffs charged to water consumers.

Mr Ngamlagosi as well advised the government to invite investors to put up pipelines to transport fuel since by doing so it will cut the costs of transporting the commodity and check adulteration among others.



Tanzania: IFC Offers U.S. \$7 Million for Tanzania Off-Grid Electricity | Feb 8 | East Africa Business Week

Source URL: http://allafrica.com/stories/201502100384.html

Mwanza — The International Finance Corporation (IFC) has announced a \$7 million (about Tsh 11.9 billion) financing deal to help expand the reach of Off-Grid Electric in Tanzania.

Off Grid Electric is a solar leasing company, which provides home solar electric systems to consumers in rural and urban Tanzania. It aims to reach 200,000 households in Tanzania by the end of 2015.

The company is based in Arusha, Tanzania.

According to the IFC, the money involves a \$4.5 million loan provided through the IFC Cleantech Innovation Facility and an additional \$2.5 million loan from Cordiant Capital of Montreal in Canada.

Xavier Helgesen, one of three co-founders of Off Grid Electric and its CEO said, "IFC's backing and expertise will help us bring affordable power to millions of people across Africa. We look forward to continuing this important work IFC's support."

The other founders are Josh Pierce and Erica Mackey.

Off Grid Electric provides pre-paid solar energy via mobile money that promoters say makes an aspirational modern energy lifestyle accessible and affordable.

The company designs, manufactures, installs and maintains solar home systems that provide modern electrical services to households that do not have access to electricity.

Service levels start below the cost of kerosene and grow with household needs with customers paying as little as a day at a time. The facility is jointly funded by IFC and the Global Environment Facility (GEF). The GEF is a partnership where 183 countries work with international institutions, civil society and the private sector to address global environmental issues.

In Tanzania low-income households spend over \$900 million to meet their lighting, cooking and mobile charging needs. Many use kerosene to fuel their lamps and back-up generators.

Off Grid Electric offers a low cost model for households at the same time reducing the upfront cost to customers and minimizing the risks associated with maintenance and repair.

Oumar Seydi, the IFC Director for Eastern and Southern Africa said, as developing countries move to a greener, low-carbon growth paths, the private sector will play a critical role in expanding access to energy.

"IFC supports as the innovation of Off Grid Electric, which provides low-cost, clean energy solutions to the millions of people in Africa not connected to the grid," he said.



Off Grid Electric, specifically, has distributed nearly 35,000 solar home systems in the Arusha, Kilimanjaro and Mwanza regions in Tanzania.

For a \$6 to \$10 installation fee, the company provides customers with a solar home system that includes panels, lithium batteries, lights and a meter. To use the system, customers send a mobile payment and receive a passcode via text message to unlock their energy.

Tanzania: Programme to Help Youth On Renewable Energy | Feb 22 | Tanzania Daily News

Source URL: http://allafrica.com/stories/201502230334.html

By Anne Robi

TANZANIA Renewable Energy Association (TAREA) in collaboration with Tanzania Commission for Science (COSTEC) have plans to start a programme of incubating youth to embark on renewable energy business, it was announced.

Speaking in Dar es Salaam on Saturday, the Executive Director of TAREA, Eng. Mathew Matimbwi, said the prgramme will involve youth with interests with renewable energy businesses.

"They will be taught on how to create and develop business on renewable energy businesses for their own benefit and the nation at large," he said.

Commenting on renewable energy business, Eng. Matimbwi said renewable energy sector is one amongst the areas that have a lot of opportunities that can help youth create their own employment.

"This is the area that has a lot of potential especially in helping youths get self employment by creating own businesses," he said, adding, that the programme set to start soon will help incubate youths and that it will help develop the sector for the benefit of the nation.

In another development, Eng. Matimbwi said his association has been helping the youth by training them in and outside the country through exchange programmes.

"We have our programme of sponsoring two to three youth per year, engaging them in renewable energy activities through trainings," he noted, adding that many youth have been trained and recruited, with some creating their own business on renewable energy field.

Tanzania: Rural Electrification Remains Govt Priority | March 4 | Tanzania Daily News

Source URL: http://allafrica.com/stories/201503040297.html

By Sebastian Mrindoko



REX Energy Chief Operation Officer, Mr Arnold Swai, explains to the Principal Energy Officer for Renewable Energy in the Ministry of Energy and Minerals, Mr Paul Kiwele (second left), about functions of 3GSolar Home System (SHS) during its launch in Dar es Salaam yesterday. Looking on (second right) is the Managing Director of the Rex Energy, Mr Francis Kibhisa and Solaric Managing Director, Mr Didar Islam.

RURAL electrification remains among the government's top priorities because it is likely to contribute immensely in transforming living conditions of the people.

This was said in Dar es Salaam by the Principal Energy Officer, Mr Paul Kiwele, who represented Deputy Permanent Secretary in the Ministry of Energy and Minerals, at the launch of Rex Solar Energy's 3G Solar Home System.

"The improved energy supply in the rural areas through public and private sector participation, will contribute significantly in improvement of livelihoods of rural populations and attainment of sustainable economic growth," he said.

He added, "The Rex Solar initiative of introducing low cost 3G Solar Home System is commendable and support government efforts of achieving dramatic improvement in their access to modern energy services."

He said the government recognises the contribution of solar energy into the whole energy sector and the system introduced by Rex Solar Energy would promote enterprising in the rural communities thus supporting efforts to address abject poverty.

The available statistics show that electrification level reaching 24 per cent, up from 18 per cent in the recent years.

Rex Energy Managing Director Mr Francis Kibhisa said "Rex Energy has taken upon itself to complement government efforts to remove off-grid and other markets facing unreliable power supply," He added that his company plans to deliver the 3G Solar Home System power solution to about 1.5 million households by 2020.

In distribution process of the new solar system, over 2,500 jobs will be created encompassing local youth who will be trained by Rex Solar Energy as artisans to install the system and provide after sales services.

Mr Kibhisa said a payment mode that allows the customers to pay deposit upfront and the balance over a period of 12 months will reduce the initial capital investment by the client.

The 3G Solar Home System technology developed by Rex Energy's partner company, Solaric Pvt Limited, has been tested in Bangladesh, India and Malaysia and is proven off grid solution to light rural Tanzania and East Africa.



Tanzania: Solar 'Generators' Power Up Remote Homes, Factories | Feb. 9 | Thompson Reuters Foundation

Source URL: http://allafrica.com/stories/201502092250.html

By Kizito Makoye

Tura, Tanzania — As darkness falls, Dora Mjungu and her two brothers cram themselves around the faint flame of a kerosene lamp, struggling to finish their homework before their mother blows out the lamp to save the fuel cost.

"I don't dare to go to bed before getting it done. If I did, I would rather stay at home because my teacher would be mad at me and hit me hard as if she was killing a snake," said Mjungu, as the lamp, made from a used cooking oil tin, cast scary shadows on the sitting room walls.

For years, 14-year-old Mjungu, a pupil at Usinge primary school in remote Tura village in Tanzania's Tabora region, has been trying to convince her mother to buy a Chinese-made solar lamp, which would not emit smoke that makes her cough.

Her mother says pupils have long survived studying by firelight or even moonlight, and "circumstances are such that I cannot afford any other kind of lamp."

But their household will soon be among hundreds to benefit from a new government-run solar power project, intended to bring electricity off-grid areas of rural Tanzania.

THE SOLAR GRID

More than 840 households - and, crucially, small factories - in Tabora, Dodoma and Katavi regions so far have been connected to solar grid systems, in which large numbers of solar panels feed batteries housed in shipping containers, with the power then carried out to the community on distribution lines similar to those used by Tanesco, the state-run power utility.

"I am very happy to be part of this project. I hope my children will now spend more time studying in bright light and they will no longer suffer from the smoke," said Mjungu's mother, Mama Dora.

Edward Ishengoma, an altenative energy commissioner in the Ministry of Energy and Minerals, said 14 solar containers, each with the capacity to supply electricity to 60 households or businesses, have been installed by Elektro Merl, an Austrian firm, at a cost of 13 billion Tanzanian shillings, or \$6 million. Chinese firm Chicco has also been contracted to supply solar units.

The funds, which come from a loan from Austria's government to Tanzania, include maintenance and repairs for five years, officials said. The project aims to reach people in remote villages not covered by the country's Rural Energy Agency projects, Ishengoma said. After the pilot phase of the project ends in July this year, he said, the government plans to install 600 more solar "generators" in villages around the country.

"People can also use these solar generators for their economic activities since they contain power outlets that can be connected to simple machines such as water pumps and welding," he said. "We hope that they will find them useful and improve their life."



Styden Rwebangila, the solar project's coordinator, said the government hopes to connect solar power to schools, health centres and churches as well as part of its development initiative called Big Results Now.

The solar generators "are very powerful," he said.

SOLAR SAWMILL

Salum Maulid, who runs a small sawmill in Tura village, said the solar generator in his village - which sits a stone's throw away from his home - is now powering the machines he uses in his work.

"It has really simplified my work; I get enough power to run the drills and electric saws," he said.

The new solar energy access is currently being provided free of charge, government officials said, though arrangements are being made to ensure users contribute something to cover the project's ongoing costs.

Similar projects are being implemented in Senegal, Mali, Cameroon and Gambia, officials said.

Tanzania has a very low level of electricity consumption per capita, with only 18 percent of the country currently connected to traditional grid power, according to the Ministry of Energy and Minerals.

While diesel generators provide power in many unconnected areas, they can be expensive and polluting, experts say, noting that renewable energy offers a cheaper and less polluting alternative, once systems are in place.

(Reporting by Kizito Makoye; editing by Laurie Goering)